

ROCHESTER, OLMSTEAD, MN

DETAILS - LANDSCAPE

WATER VALVE



THE LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES AS SHOWN ON THE PLANS ARE BASED ON AVAILABLE RECORDS AT THE TIME THE PLANS WERE PREPARED AND ARE NOT GUARANTEED TO BE COMPLETE OR CORRECT. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE THE EXACT LOCATION OF ALL FACILITIES AND TO PROVIDE ADEQUATE PROTECTION OF SAID UTILITIES DURING THE COURSE OF WORK.

CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN OPERATION OF EXISTING UTILITIES THROUGHOUT THE DURATION OF THE PROJECT. IN THE EVENT THAT AN INTERRUPTION OF SERVICE IS UNAVOIDABLE IN ORDER TO COMPLETE THE WORK, CONTRACTOR SHALL PROVIDE ADEQUATE NOTIFICATION TO ALL AFFECTED BUSINESSES A MINIMUM OF 3 WORKING DAYS IN ADVANCE OF ANY INTERRUPTION.

IT IS THE LAW THAT ANYONE EXCAVATING AT ANY SITE MUST NOTIFY GOPHER STATE ONE CALL (GSOC) SO THAT UNDERGROUND ELECTRIC, NATURAL GAS, TELEPHONE OR OTHER UTILITY LINES CAN BE MARKED ON OR NEAR YOUR PROPERTY BEFORE ANY DIGGING BEGINS. A 48-HOUR NOTICE, NOT INCLUDING WEEKENDS, IS REQUIRED. CALLS CAN BE MADE TO GSOC AT 1-800-252-1166 OR (651) 454-0002, MONDAY THROUGH FRIDAY (EXCEPT HOLIDAYS) FROM 7 A.M. TO 5 P.M.

LICENSE # 43873

EOR PROJECT NO.
2010-012 (.16515)

**Emmons & Olivier
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651 Hale Avenue North
Oakdale, MN 55128
Tele: 651.770.8448
www.eorinc.com

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201 4TH ST. SE
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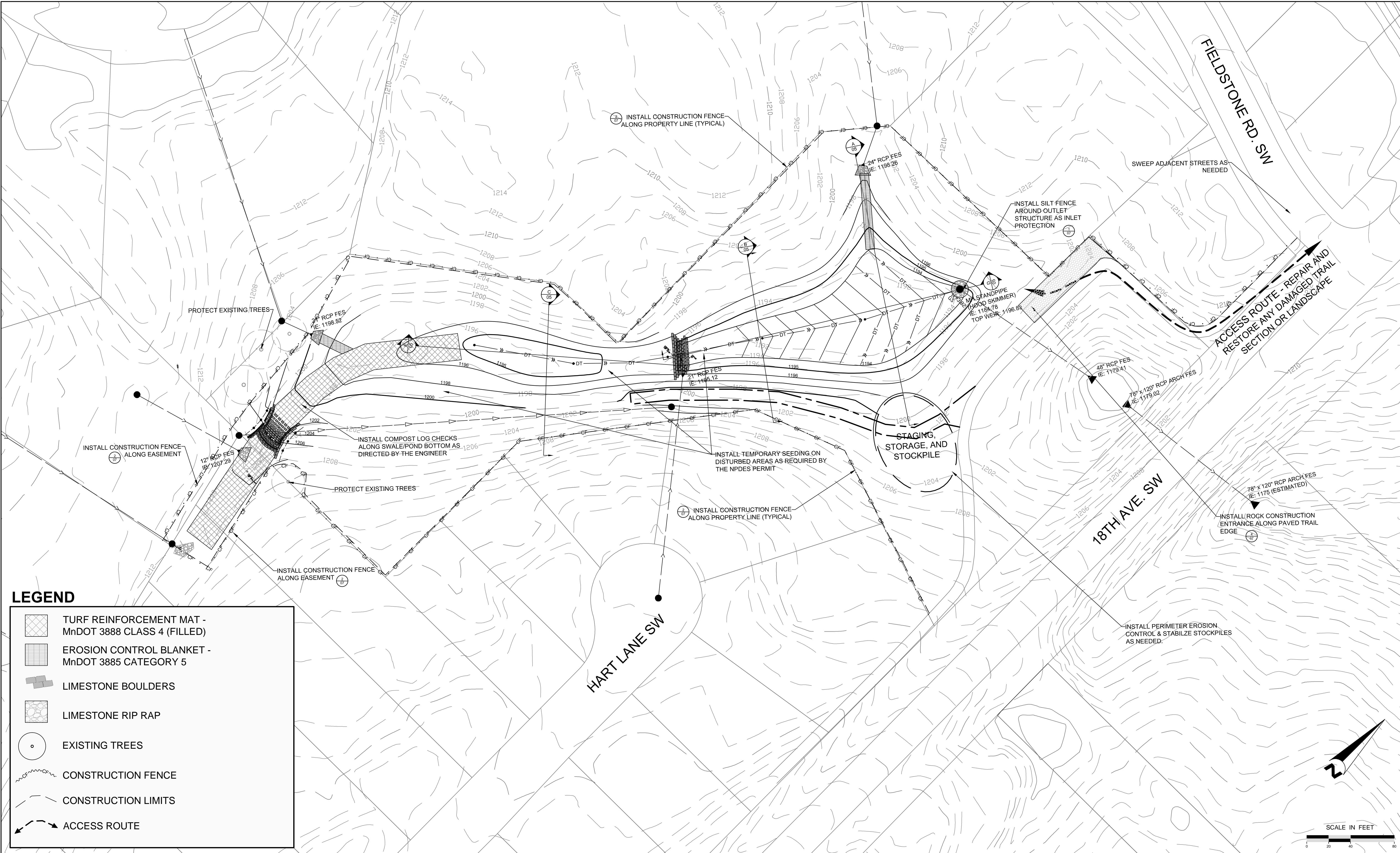
HART FARMS POND IMPROVEMENTS

ROCHESTER, OLMSTEAD, MN

SHEET 01 OF 10 SHEETS

CITY PROJECT NO. 2010-012 (J6515)

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LEGEND

TURF REINFORCEMENT MAT - MnDOT 3888 CLASS 4 (FILLED)

EROSION CONTROL BLANKET - MnDOT 3885 CATEGORY 5

LIMESTONE BOULDERS

LIMESTONE RIP RAP

EXISTING TREES

CONSTRUCTION FENCE

CONSTRUCTION LIMITS

ACCESS ROUTE

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NO	DATE	BY	REVISION

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GREGORY D. BRASKE
DATE: 05/02/2013
LICENSE # 43873

SUBMISSION DATE:
05/02/2013

DESIGN BY: GDG
DRAWN BY: JRH

EOR PROJECT NO.
00214-0006

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CITY PROJECT NO. 2010-012 (J6515)

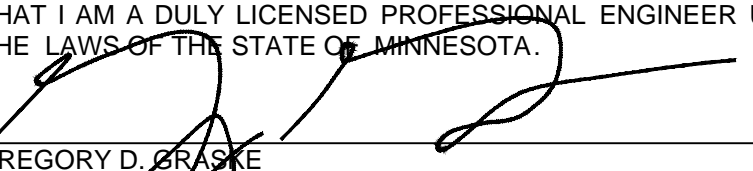
EROSION CONTROL

SHEET 02 OF 10 SHEETS

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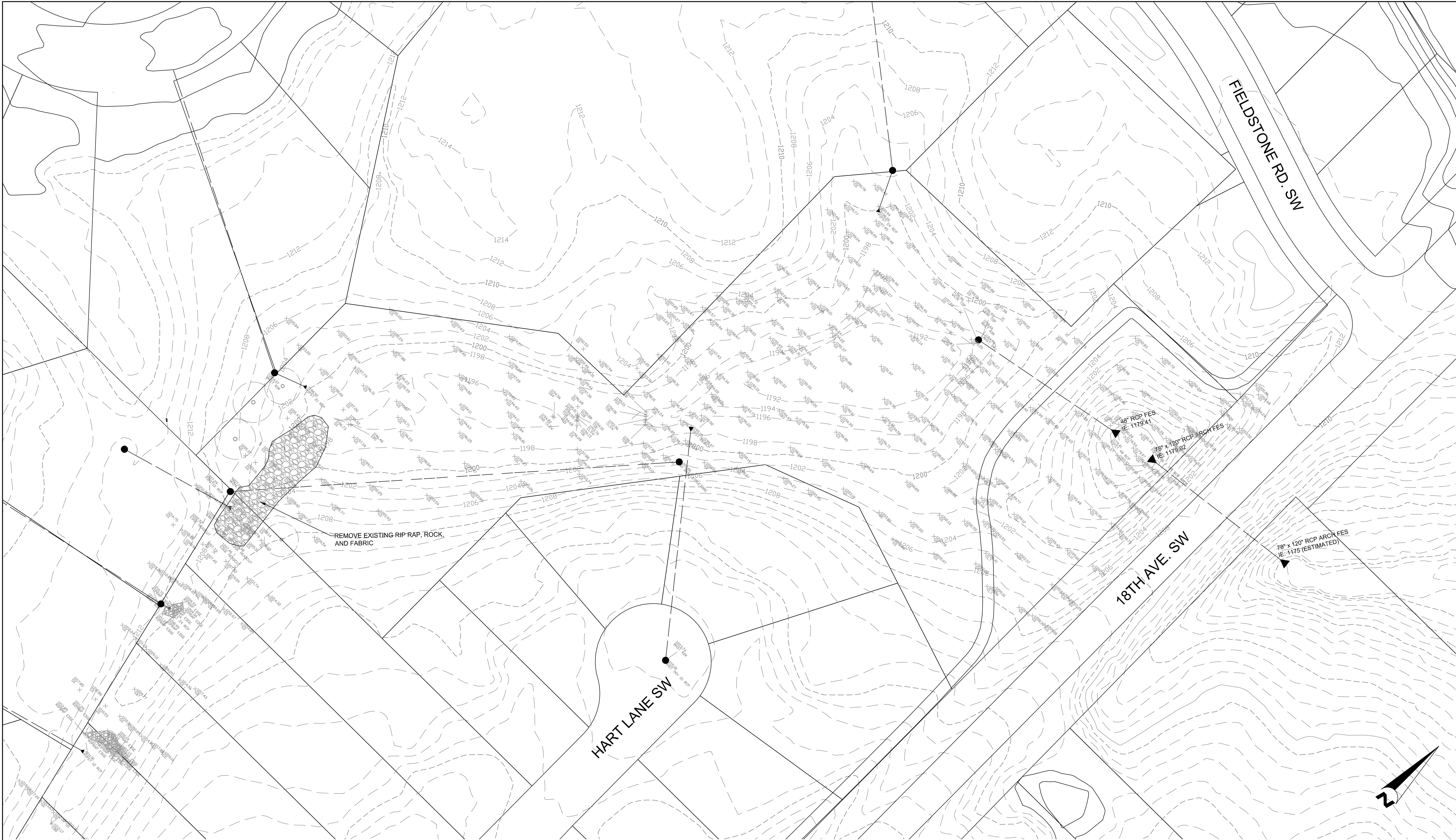
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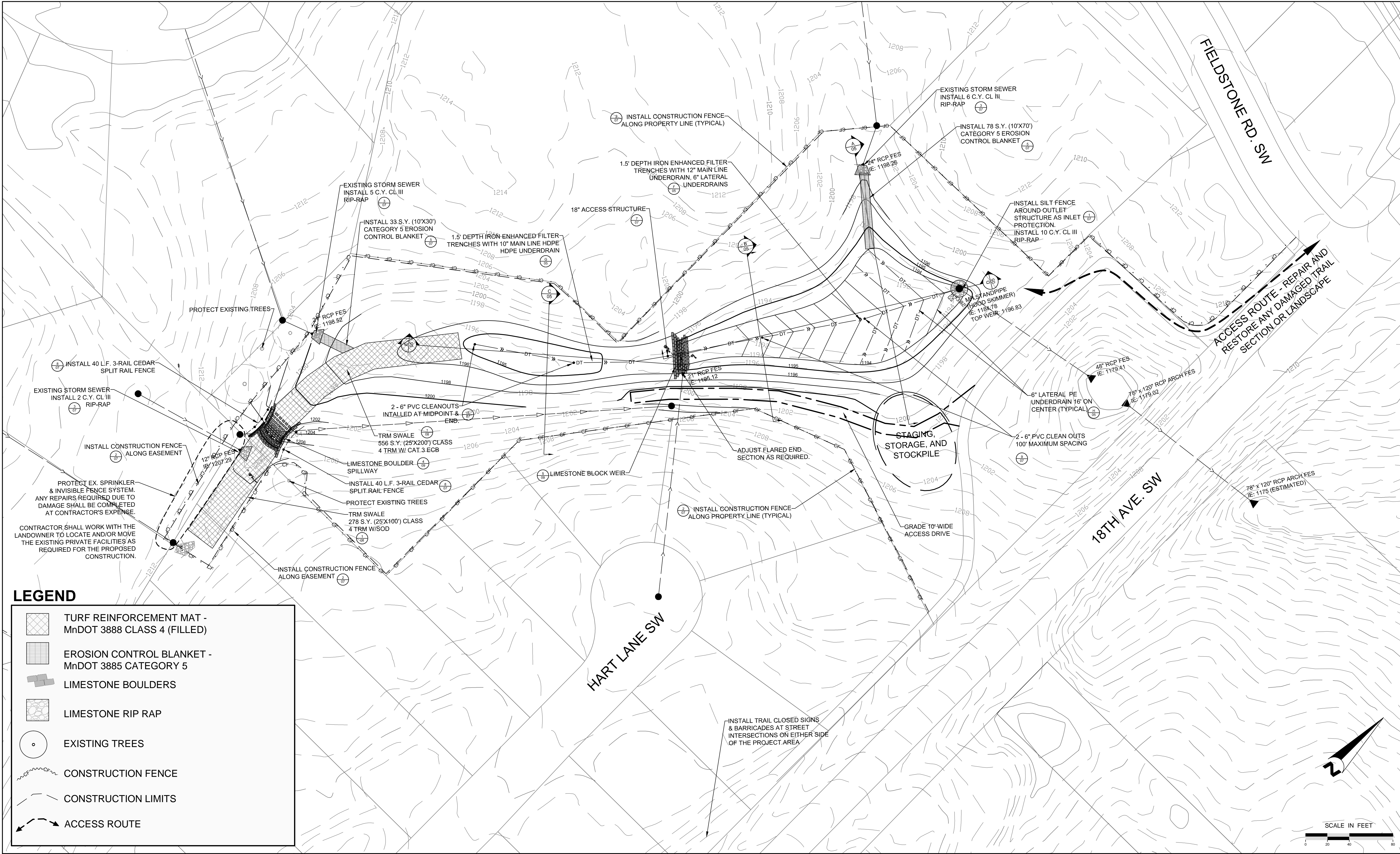
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ROCHESTER, OLNSTEAD, MN

STATE PROJECT NO. --- CITY PROJECT NO. 2010-012 (J6515)

EXISTING CONDITIONS AND REMOVALS

SHEET 03 OF 10 SHEETS





LEGEND

TURF REINFORCEMENT MAT - MnDOT 3888 CLASS 4 (FILLED)

EROSION CONTROL BLANKET - MnDOT 3885 CATEGORY 5

LIMESTONE BOULDERS

LIMESTONE RIP RAP

EXISTING TREES

CONSTRUCTION FENCE

CONSTRUCTION LIMITS

ACCESS ROUTE

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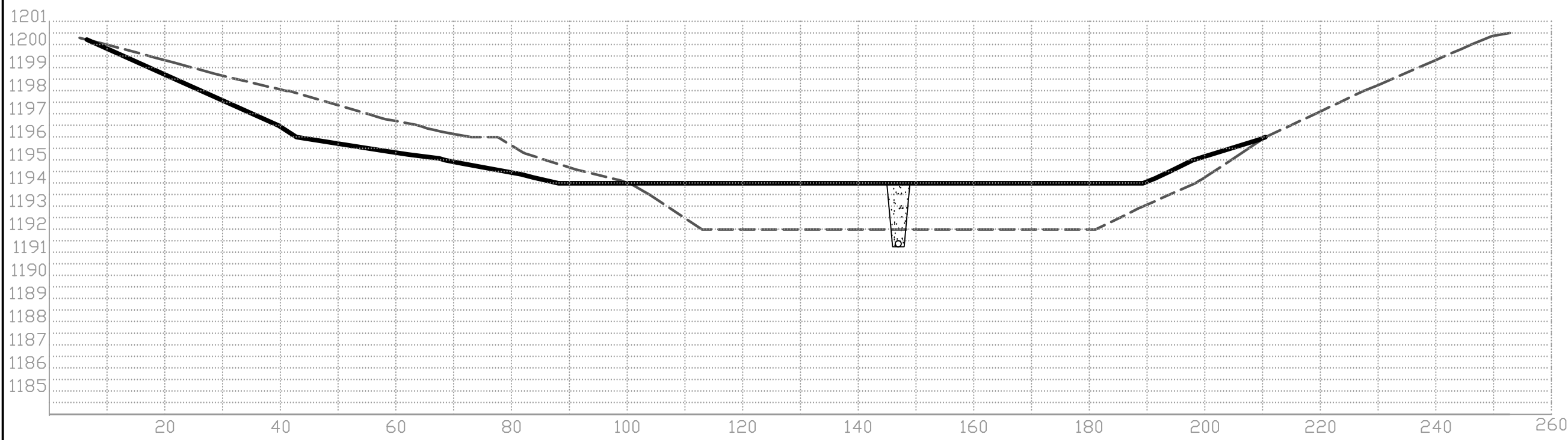
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ROCHESTER, OLMSTEAD, MN

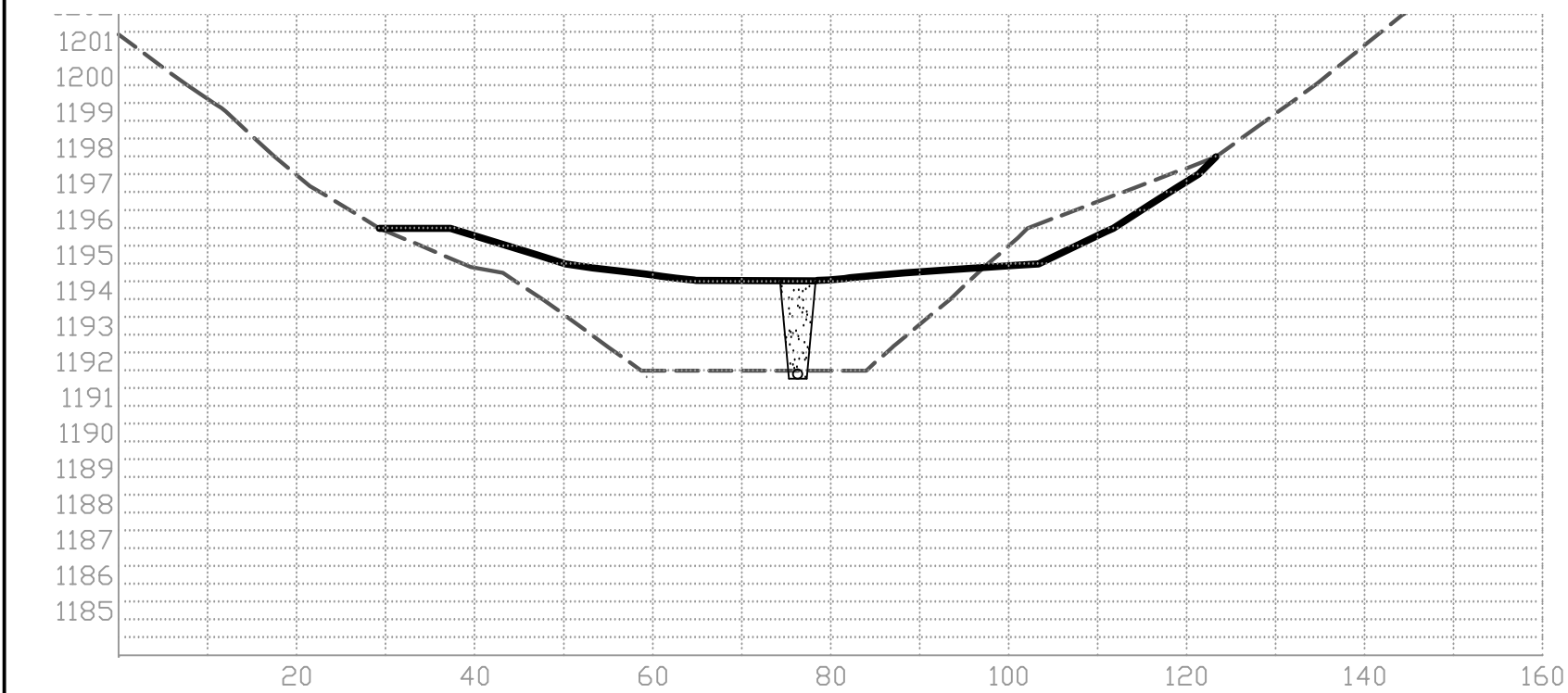
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PLAN OVERVIEW

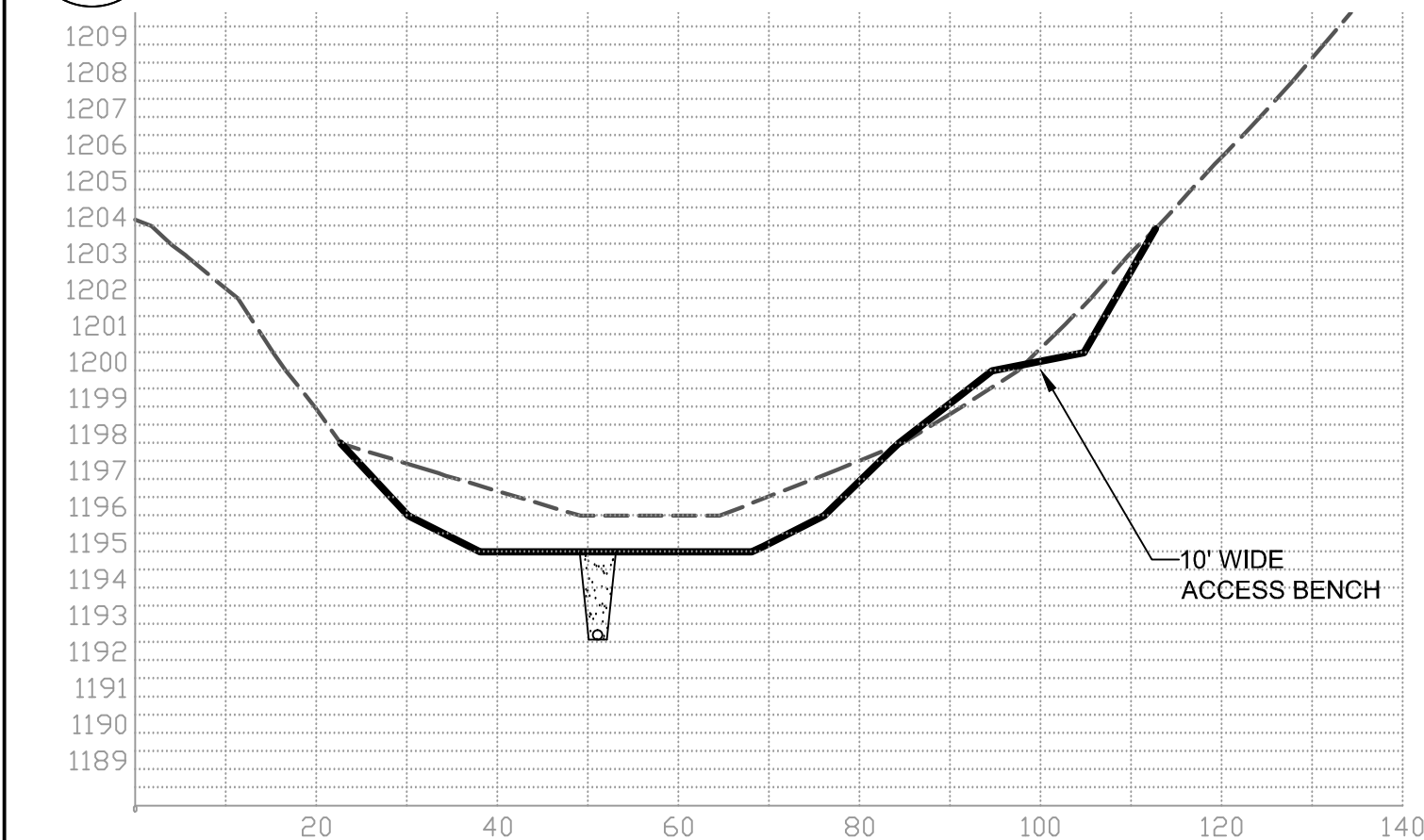
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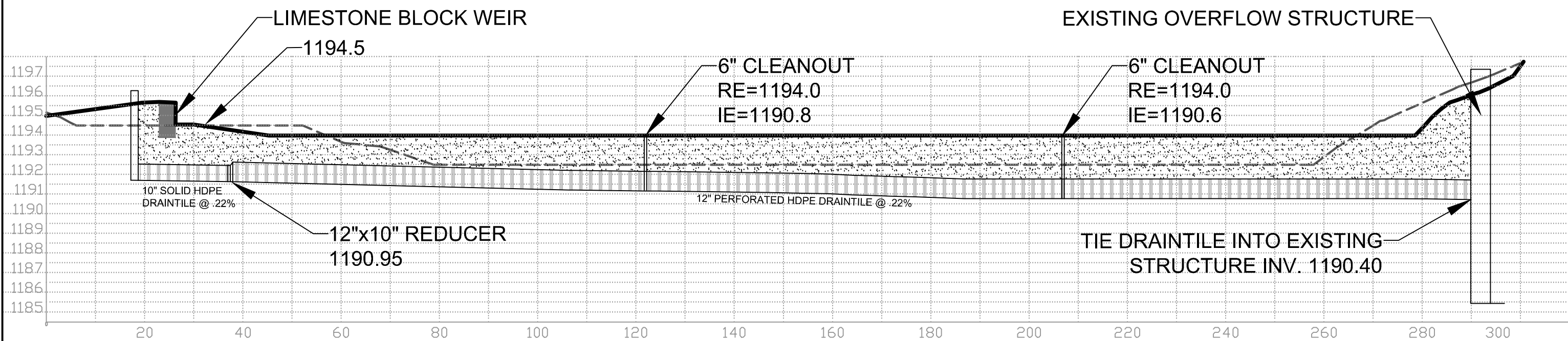
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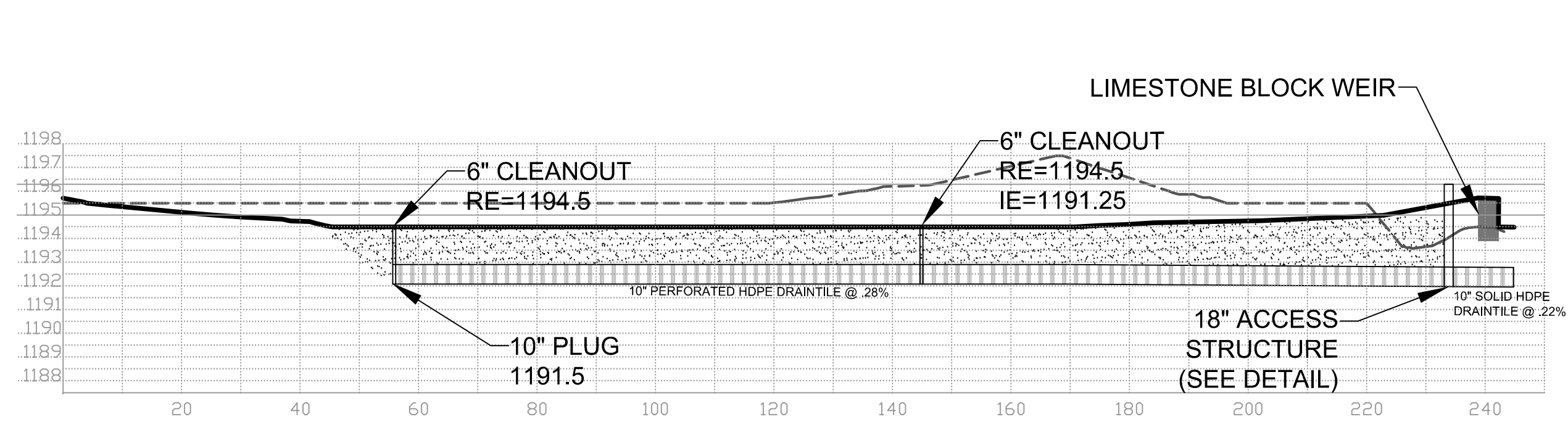
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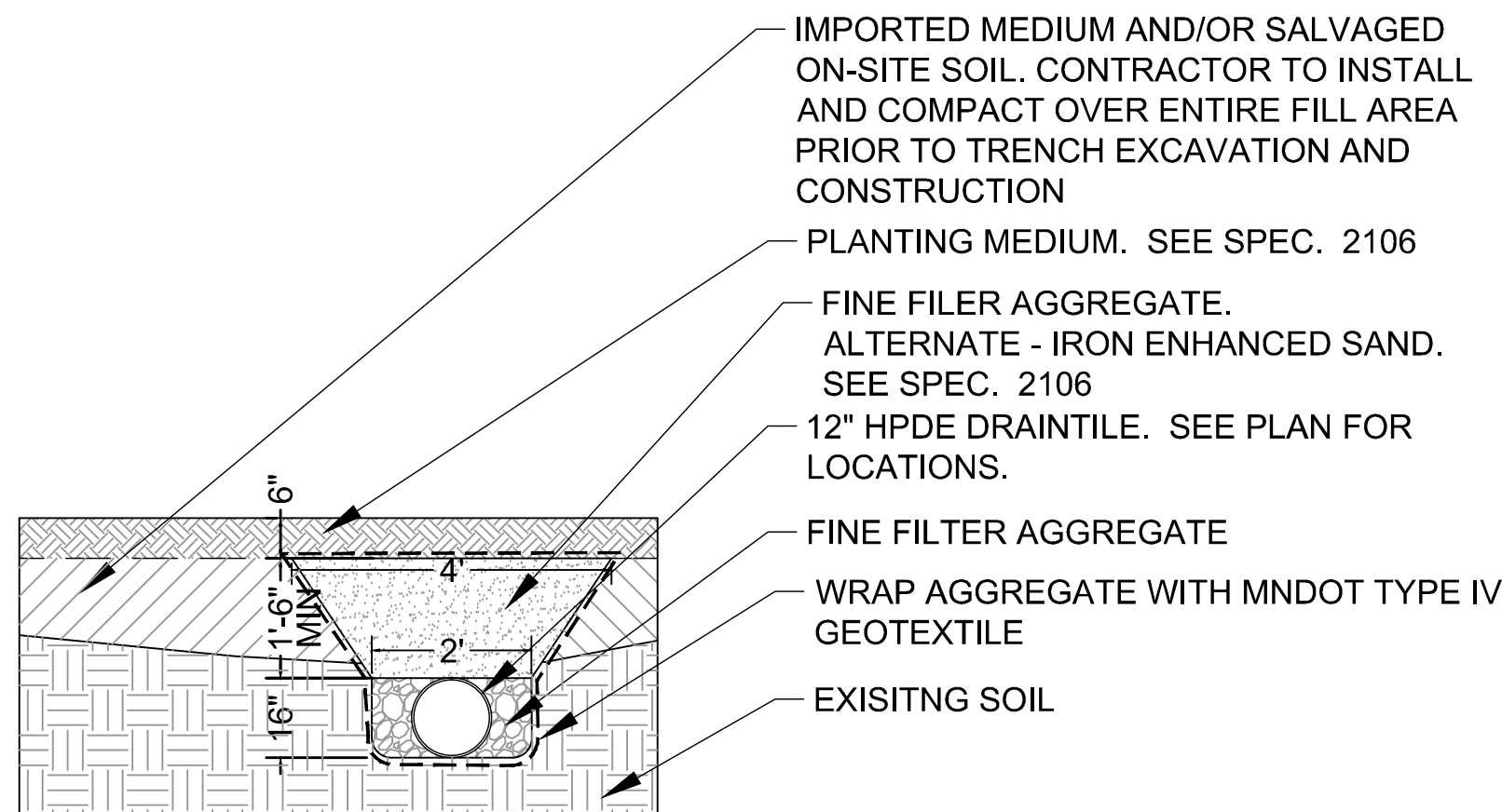
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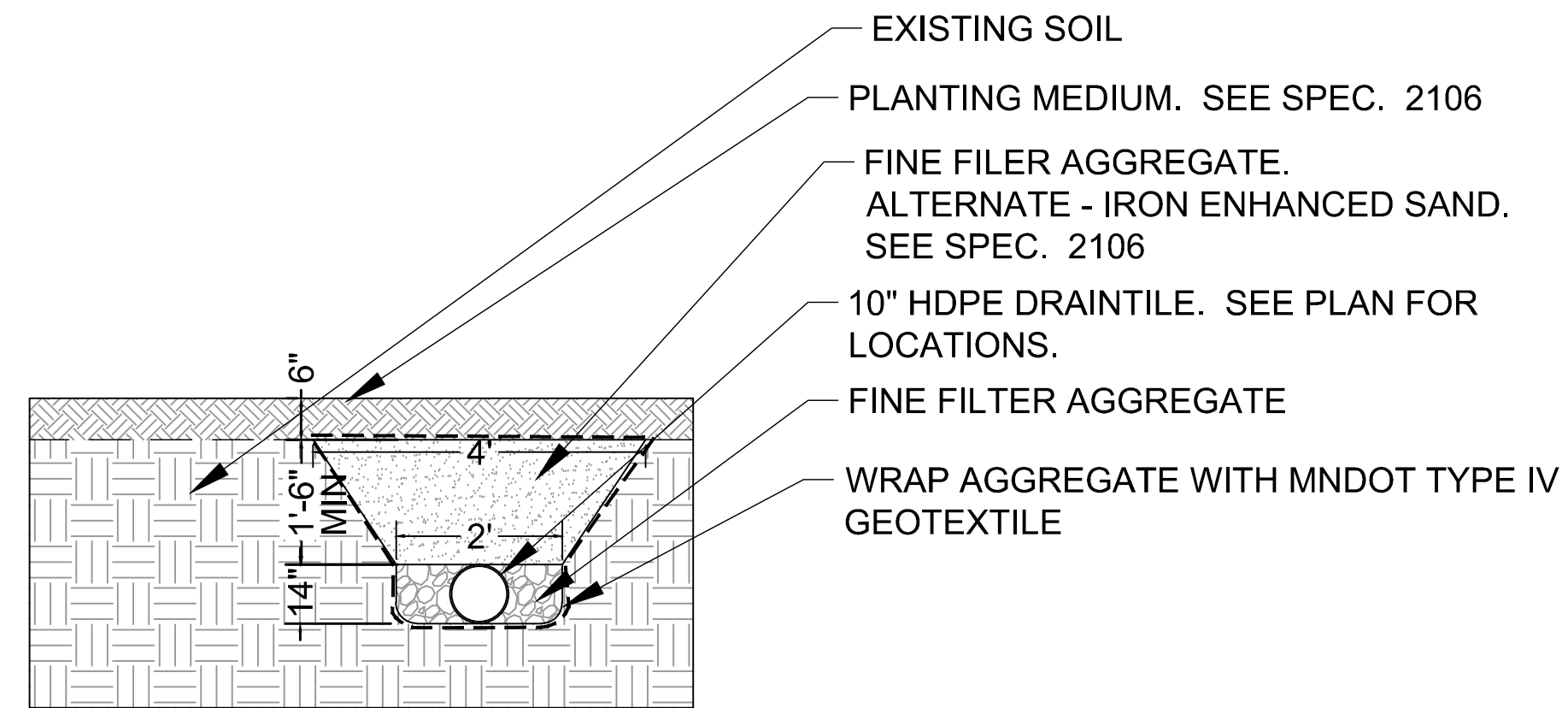
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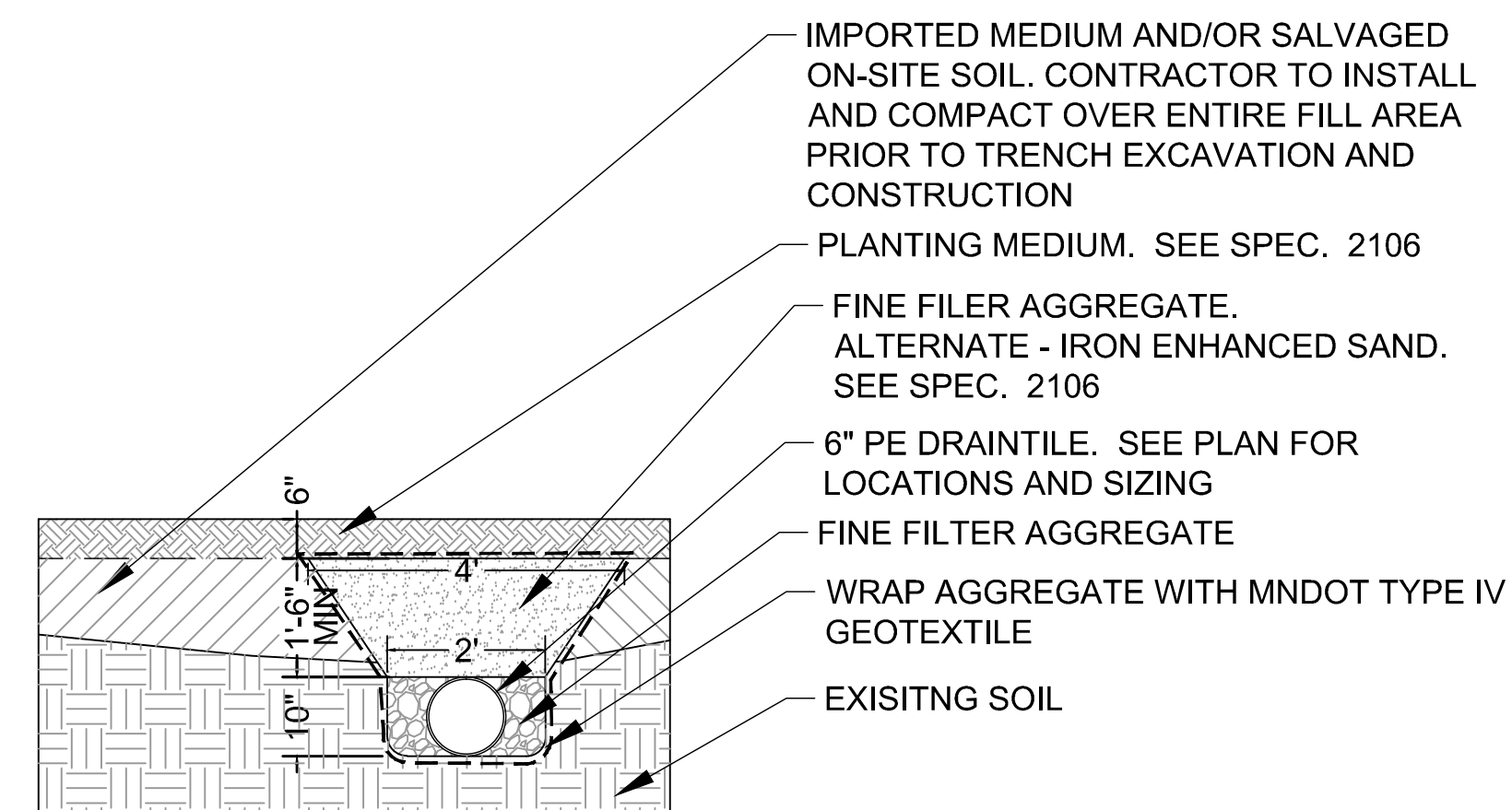
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F
05 TYPICAL IRON ENHANCED SAND TRENCH CROSS SECTION
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G
05 TYPICAL IRON ENHANCED SAND TRENCH CROSS SECTION
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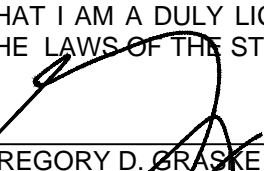


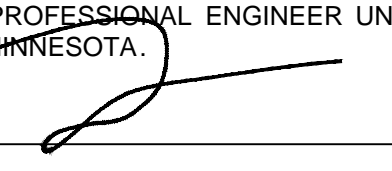
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05 TYPICAL IRON ENHANCED SAND TRENCH CROSS SECTION
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PROFILES AND CROSS SECTIONS

SHEET 05 OF 10 SHEETS

NOTES:

1. COMPOST SHALL BE BLOWN IN TO AREAS RECEIVING TRM PRIOR TO SODDING OR HYDROSEEDING PER DETAIL.
2. HYDRAULIC SOIL STABILIZER SHALL BE APPLIED PER MANUFACTURERS RECOMMENDATIONS.
3. TRM TO RECEIVE SOD (ABOVE SPILLWAY) OR HYDROSEEDING AND EROSION CONTROL BLANKET (BELOW SPILLWAY).
4. REPAIR AND RE-SEED ALL DISTURBED AREAS.
5. PROTECT EXISTING SIGNIFICANT TREES WITH CONSTRUCTION FENCING. NO EQUIPMENT OR MATERIAL STORAGE ALLOWED WITHIN DRIPLINE OF TREES.
6. SALVAGED AND RESPREAD TOPSOIL SHALL BE INSTALLED IN AREAS TO RECEIVE SOD AND PM-GD SEED MIXTURE ONLY. DO NOT APPLY TOPSOIL TO THE BOTTOM OF IRON-SAND FILTRATION BASIN.

LEGEND

- SOD
- PM-GD PRAIRIE MOON GRAND DIVERSITY SEED MIXTURE 32-241. HYDROSEED WITH MnDOT TYPE 8 HYDRAULIC SOIL STABILIZER
- MnDOT SEED MIXTURE 33-262. HYDROSEED WITH MnDOT TYPE 8 HYDRAULIC SOIL STABILIZER
- LIMESTONE BOULDERS
- LIMESTONE RIP RAP
- EXISTING TREES
- PROPOSED DECIDUOUS TREES
- PROPOSED DECIDUOUS SHRUBS

PERENNIALS					
Quantity	Scientific Name	Common Name	Size	Type	Spacing
50	<i>Schizachyrium scoparium</i>	Little Bluestem	6" HEIGHT	plug	1' O.C.
50	<i>Andropogon gerardi</i>	Big bluestem	6" HEIGHT	plug	1' O.C.
100					

TREES						
Symbol	Quantity	Scientific Name	Common Name	Size	Type	Container
BO	3	<i>Quercus macrocarpa</i>	Bur Oak	1" cal	#20 Cont.	Pot
NO	6	<i>Quercus ellipsoidalis</i>	Northern Pin Oak	1" cal	#20 Cont.	Pot
	9					

SHRUBS					
Quantity	Scientific Name	Common Name	Size	Type	Spacing
18	<i>Corylus americana</i>	American Hazelnut	24" HEIGHT	#5 Cont.	5' O.C.
11	<i>Viburnum trilobum</i>	American Cranberry	24" HEIGHT	#5 Cont.	5' O.C.
18	<i>Aronia melanocarpa</i>	Black Chokeberry	24" HEIGHT	#5 Cont.	5' O.C.
47					

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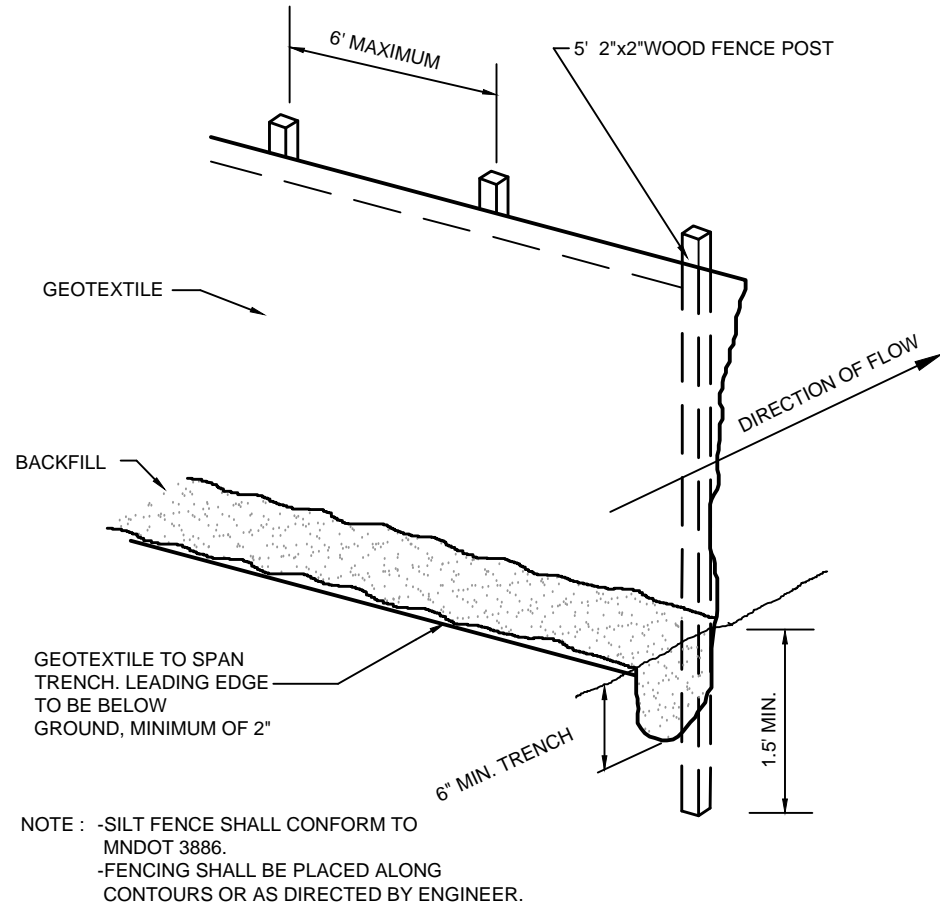
HART FARMS POND IMPROVEMENTS
ROCHESTER, OLMSTEAD, MN

LANDSCAPING AND SEEDING

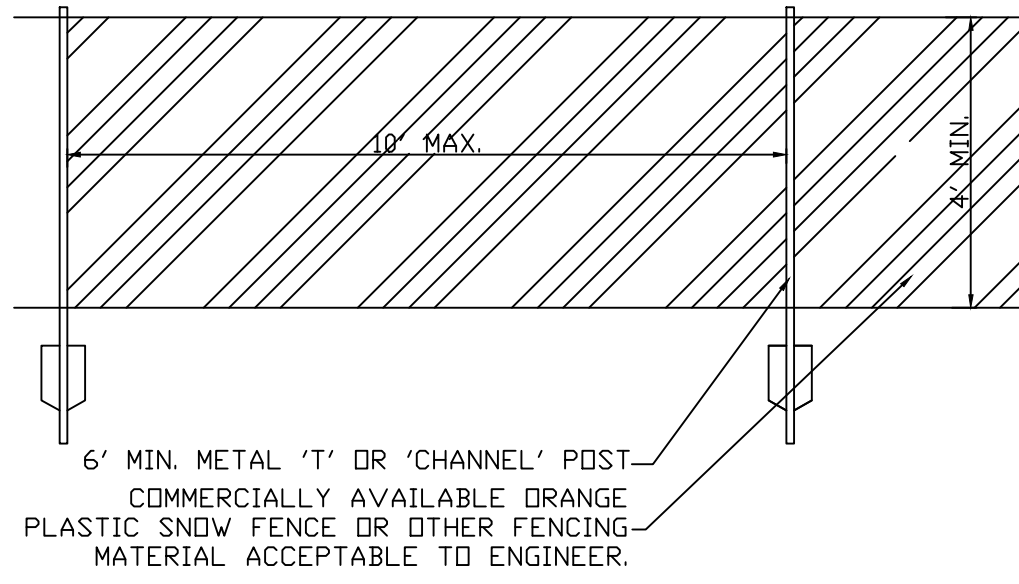
SHEET 06 OF 10 SHEETS

STATE PROJECT NO. ---

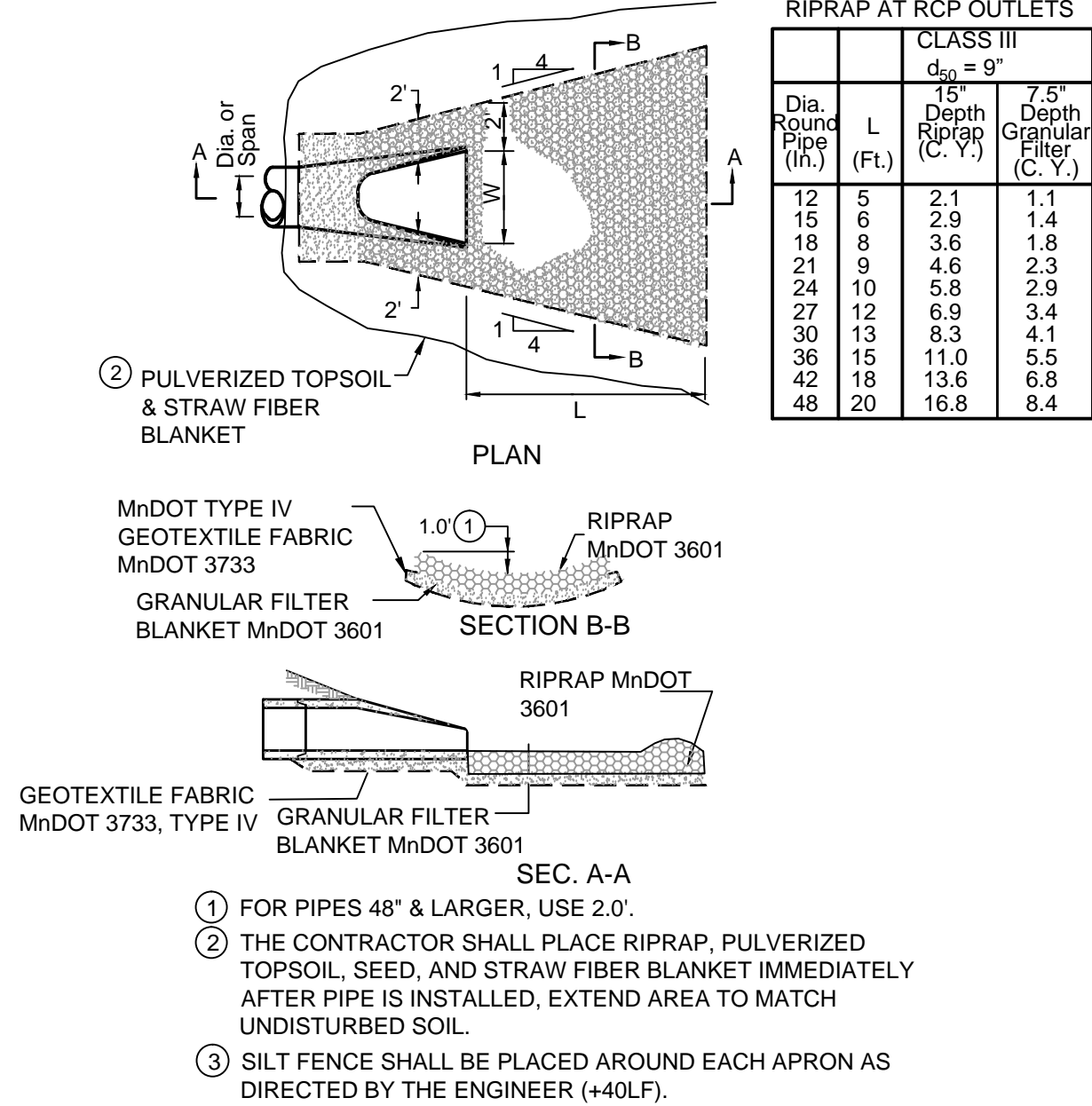
CITY PROJECT NO. 2010-012 (J6515)



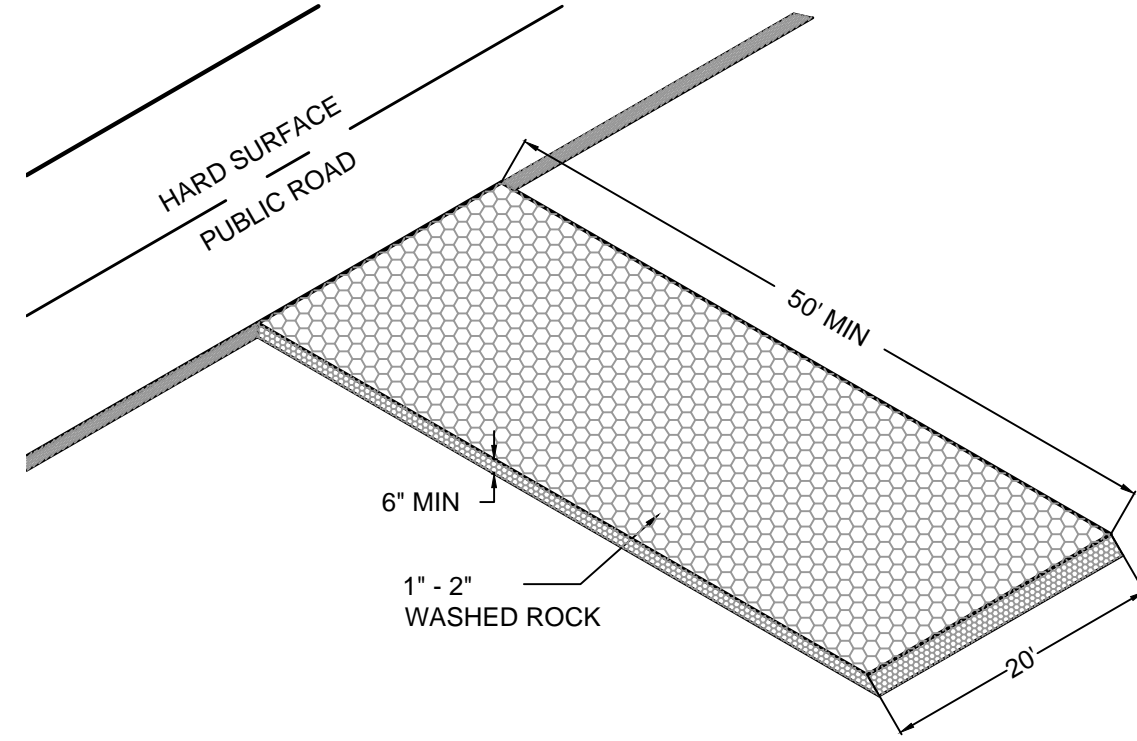
SILT FENCE
(PREASSEMBLED)



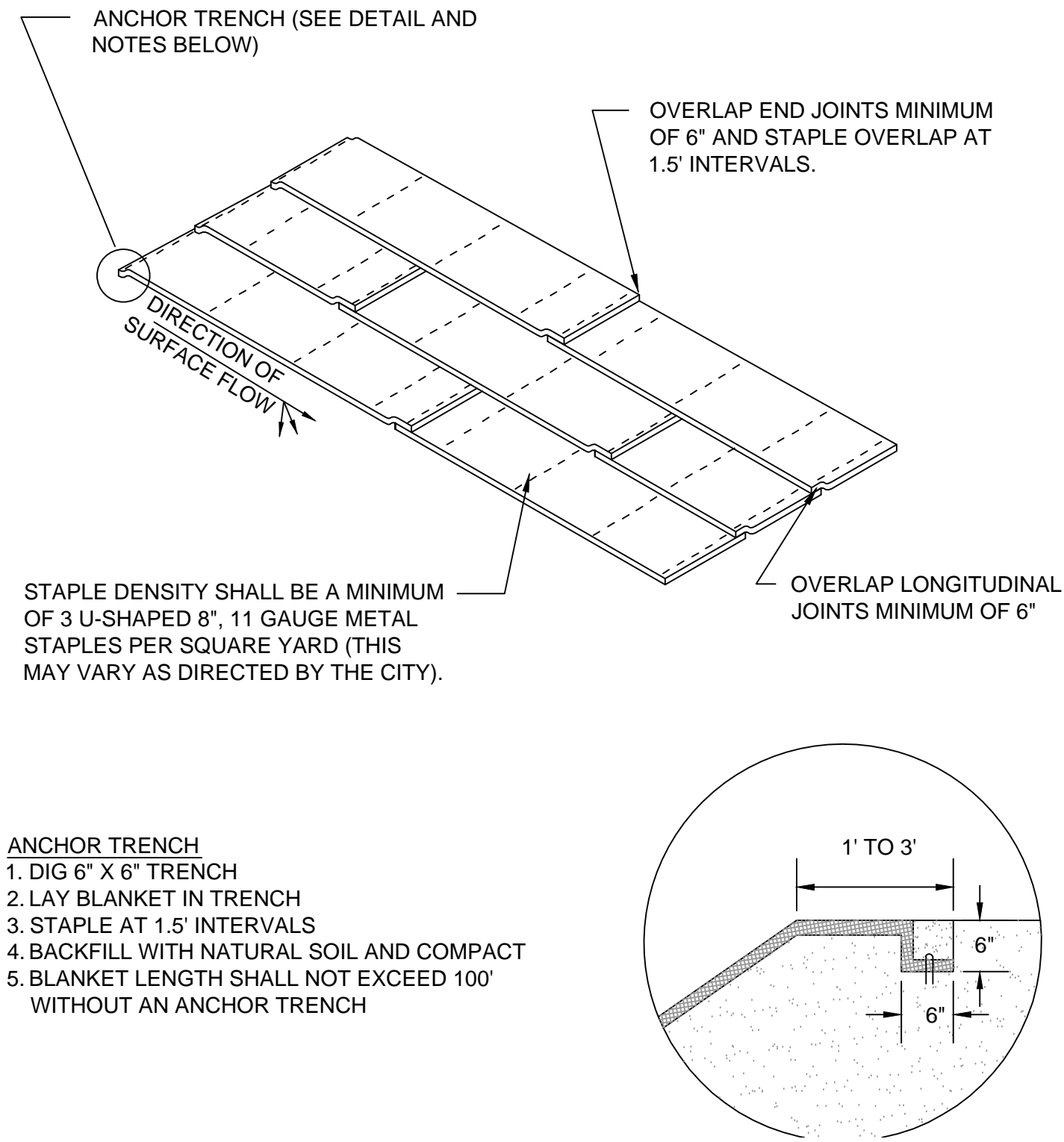
CONSTRUCTION FENCE DETAIL



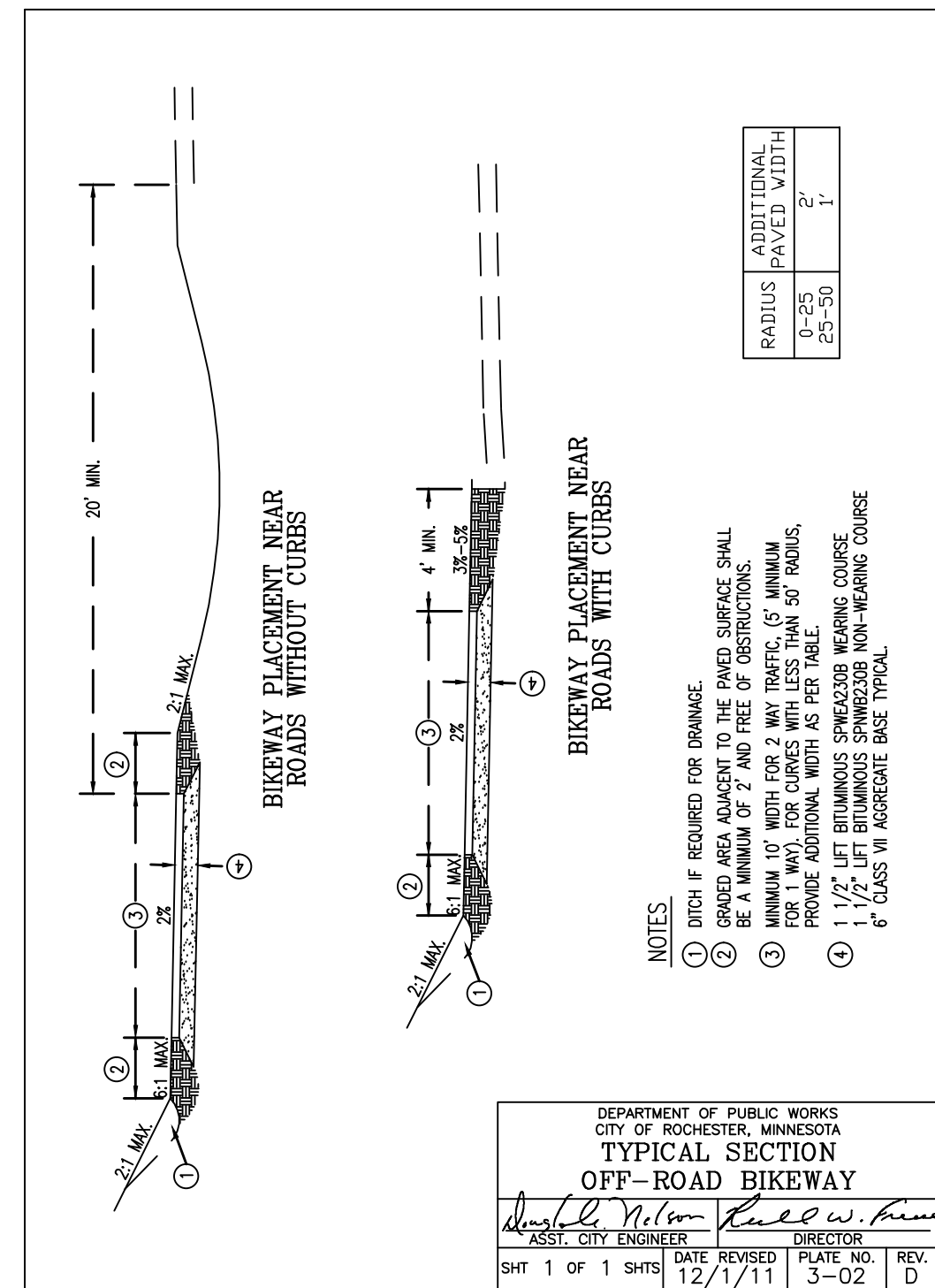
RIP RAP AT PIPE OUTLETS



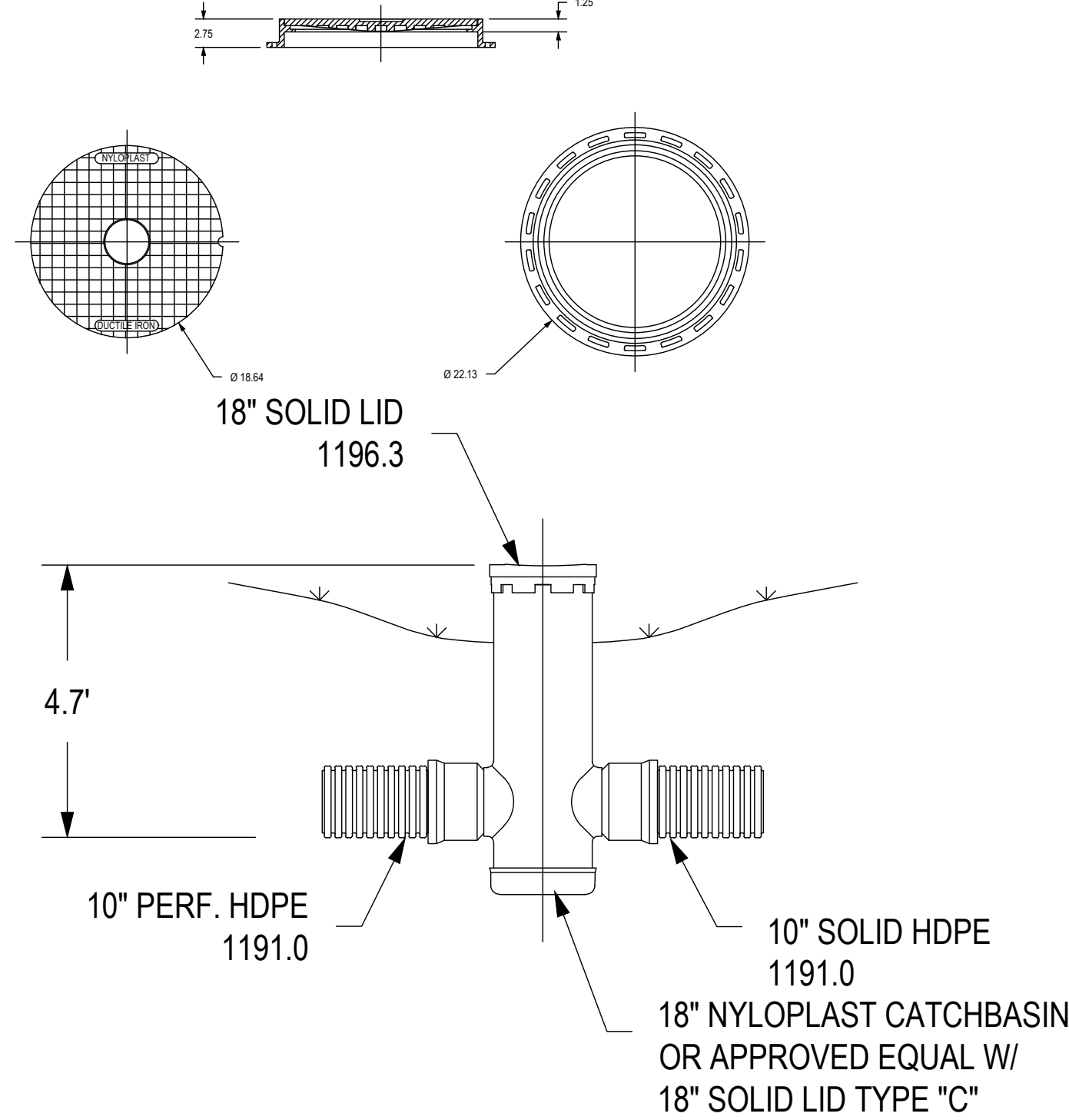
ROCK CONSTRUCTION ENTRANCE



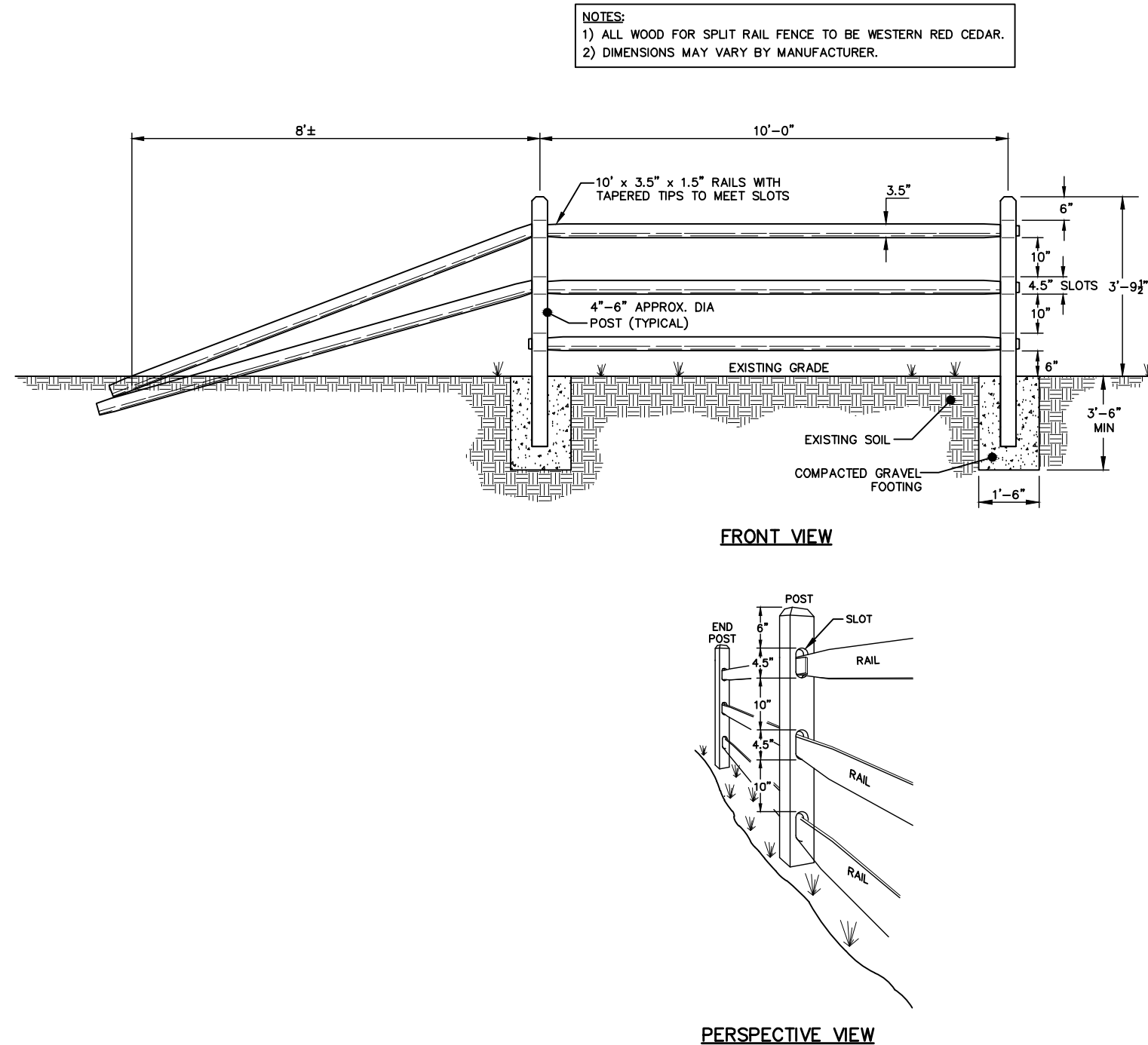
EROSION CONTROL BLANKET INSTALLATION



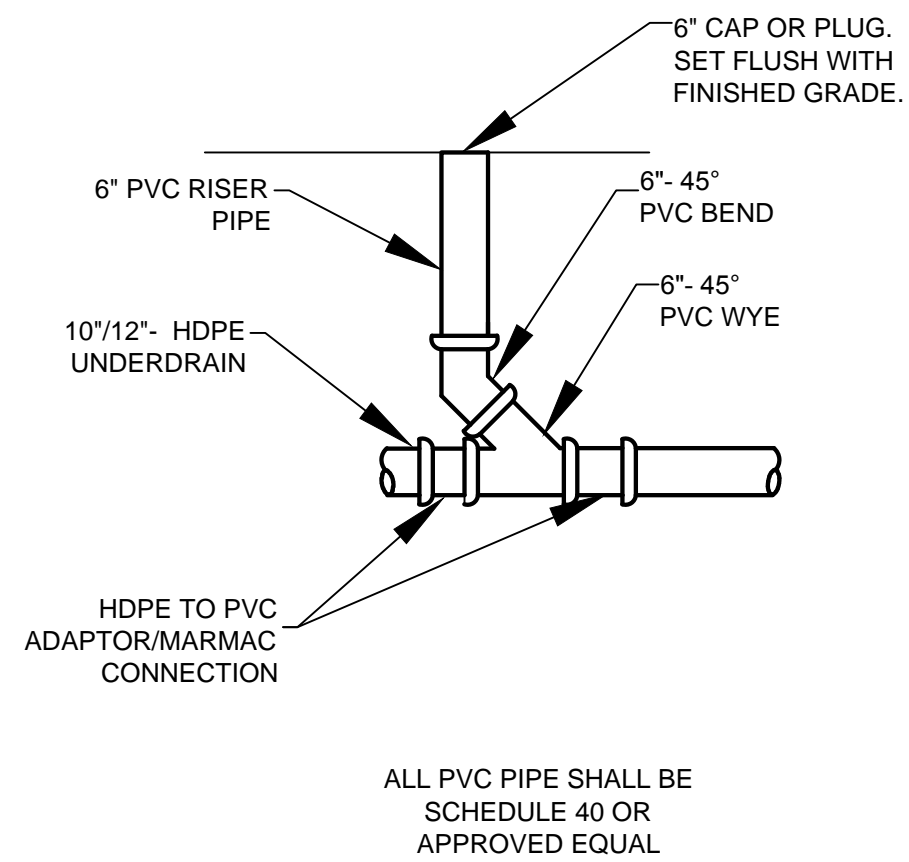
TYPICAL BIKE TRAIL



ACCESS STRUCTURE



SPLIT RAIL FENCE



CLEANOUT

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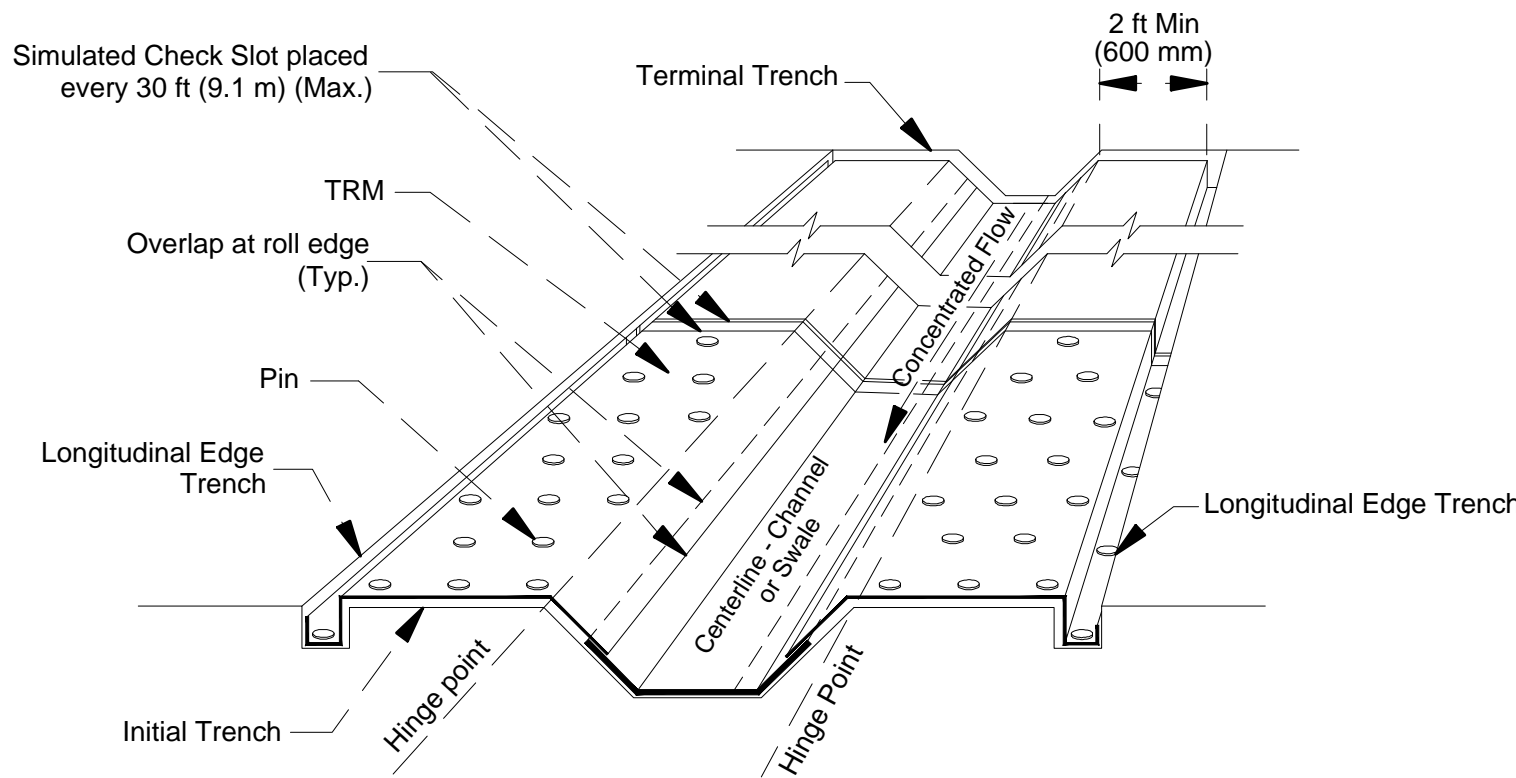
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STATE PROJECT NO. ---
CITY PROJECT NO. 2010-012 (J6515)

DETAILS
SHEET 07 OF 10 SHEETS



PERSPECTIVE NOTE: For clarity, perspective view does not show all pins.

FIGURE 1: OVERVIEW OF TRM IN CHANNEL

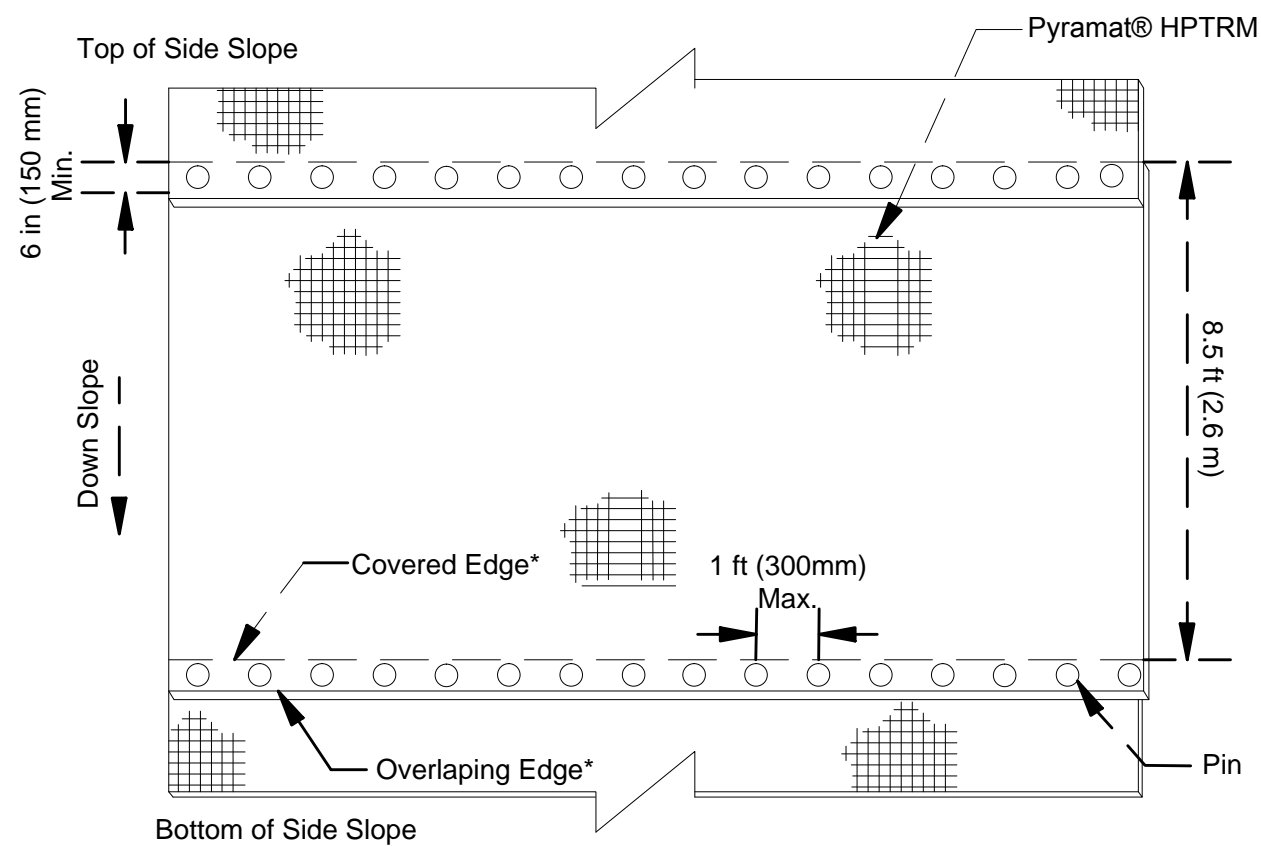


FIGURE 4: OVERLAP AT ROLL EDGE DETAIL

*Note: TRM Edge Shingle/Overlap placement depends on down slope direction (i.e Shingle in the direction of the down slope)

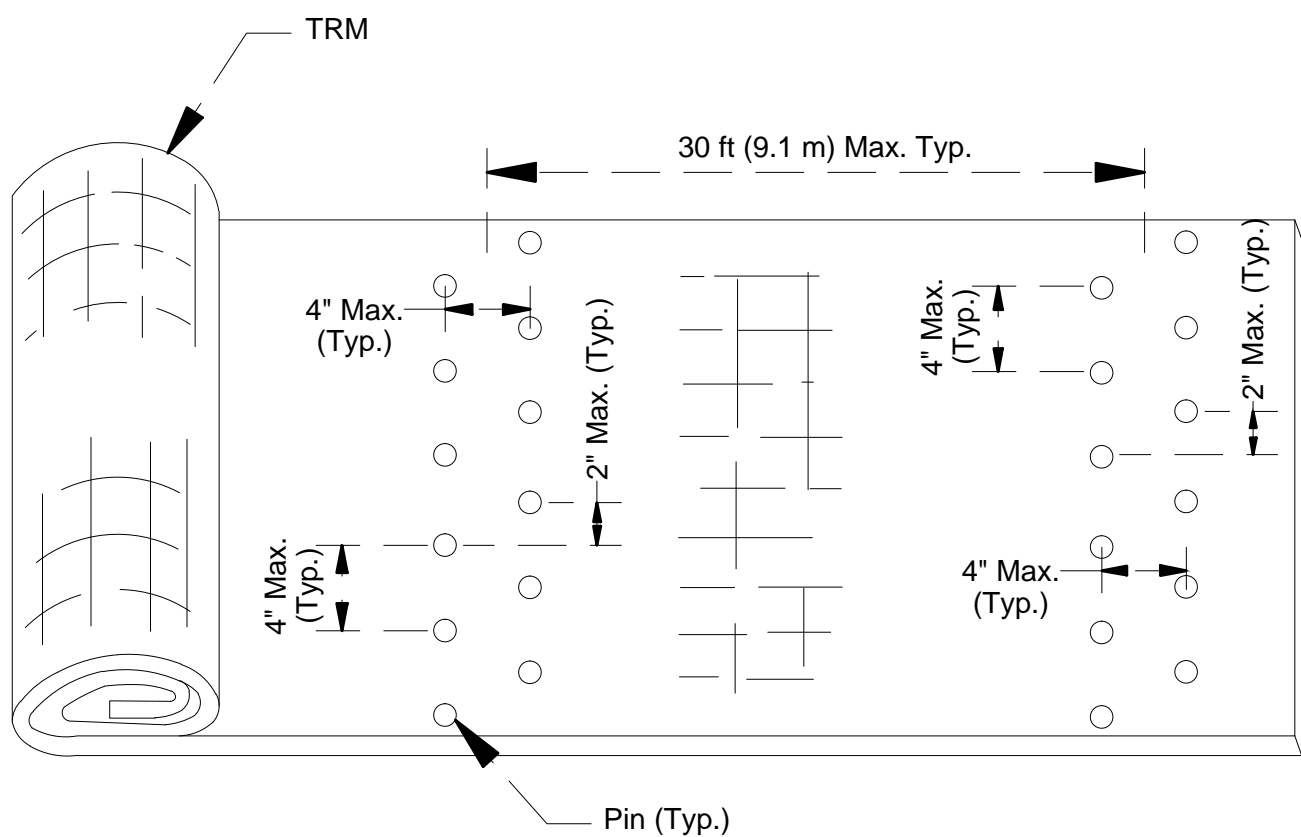


FIGURE 7: SIMULATED CHECK SLOT DETAIL

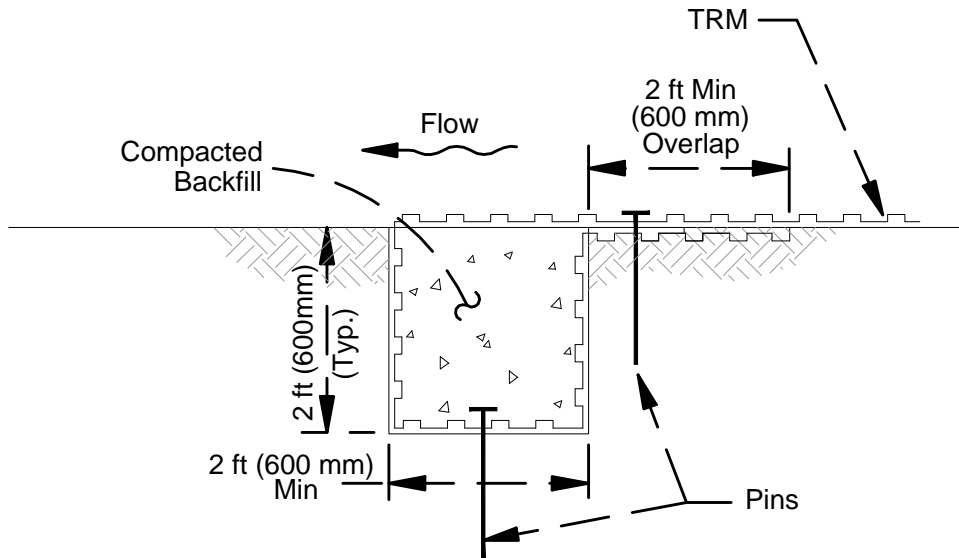


FIGURE 2: INITIAL TRENCH (DOWNSTREAM) DETAIL

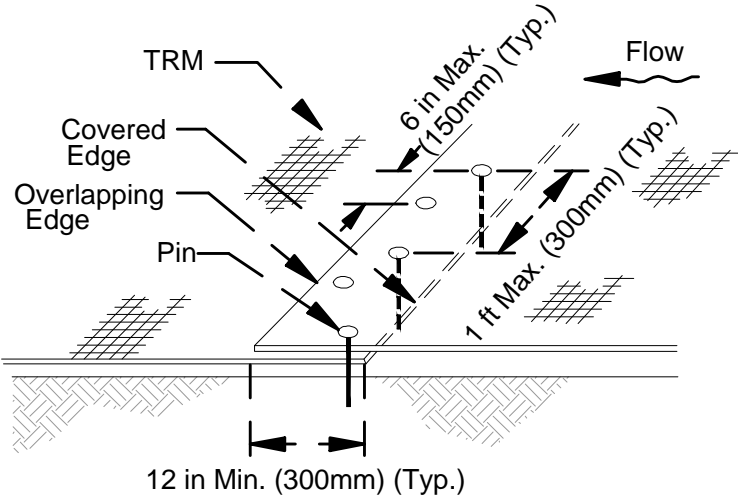


FIGURE 5: TRM OVERLAP AT ROLL END DETAIL

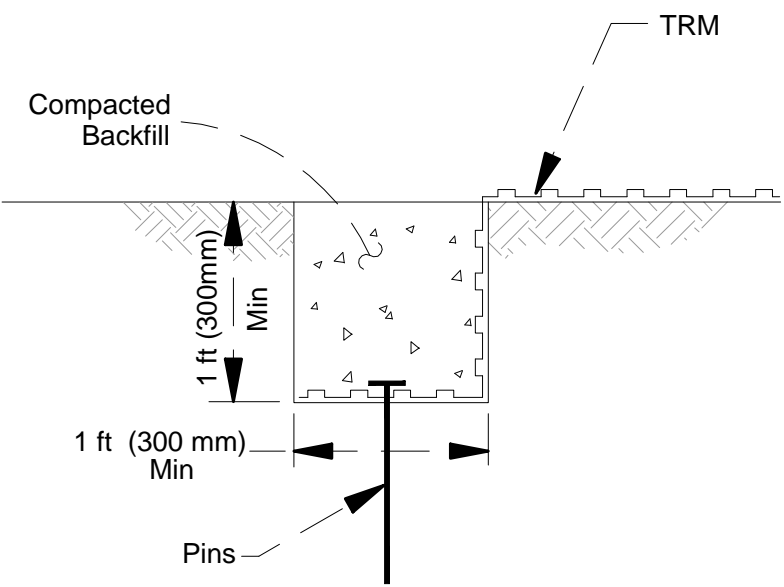


FIGURE 3: LONGITUDINAL EDGE TRENCH DETAIL

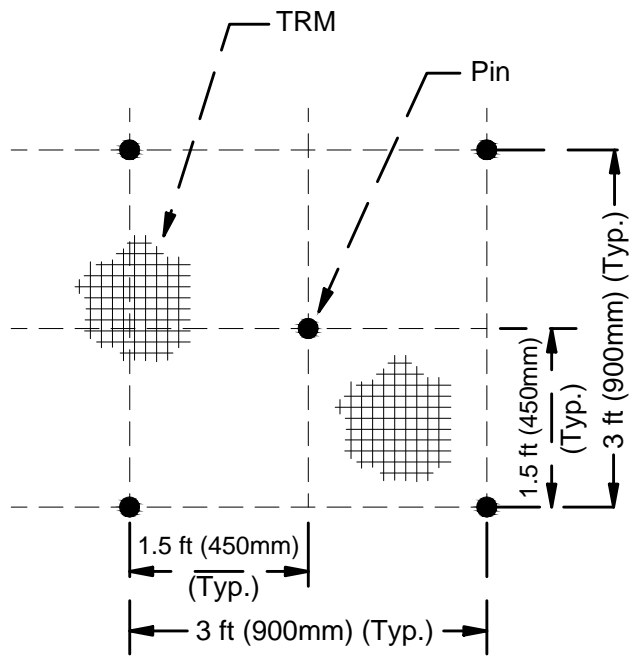


FIGURE 6: PIN PATTERN DETAIL

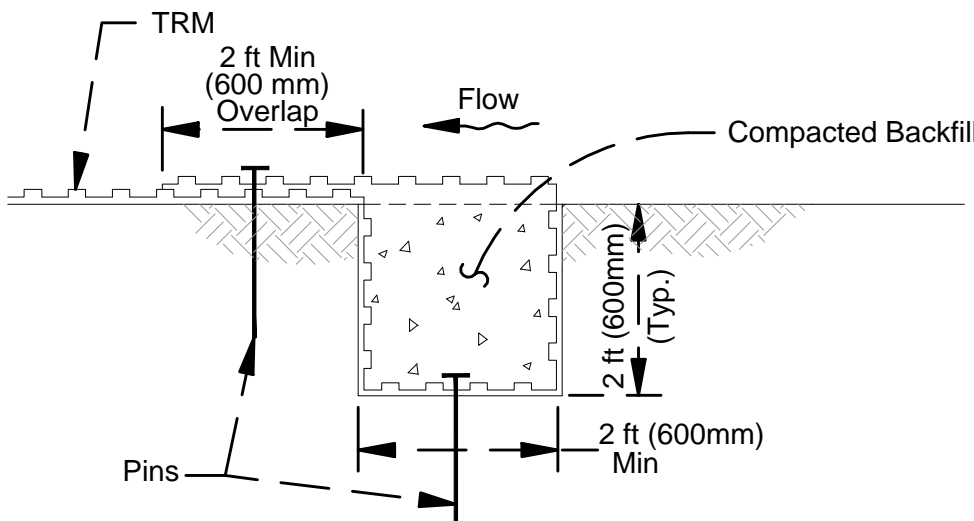


FIGURE 8: TERMINAL TRENCH (UPSTREAM) DETAIL

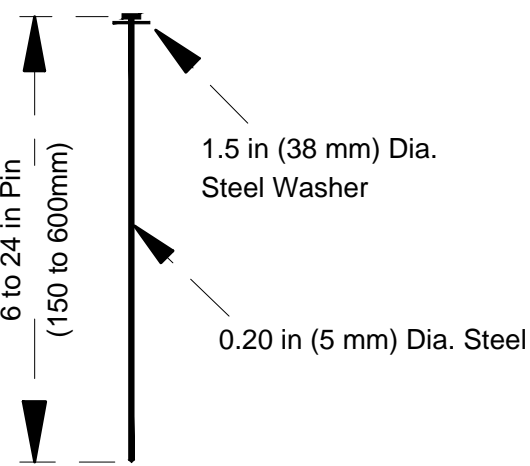


FIGURE 9: PIN DETAIL

TRM IN SWALE PRE-CONSTRUCTION

- A pre-construction meeting should be held with the construction team. This meeting shall be scheduled by the contractor with at least two weeks notice.

SITE PREPARATION

- Grade and compact area of TRM installation as directed and approved by Engineer. Subgrade shall be uniform and smooth. Remove all rocks, clods, vegetation or other objects so the installed mat will have direct contact with soil surface.
- Prepare seeded by loosening the top 2-3 in (50-75 mm) minimum of soil.
- Do not mulch areas where mat is to be placed.

SEEDING - TRM SWALE BELOW BOULDER SPILLWAY

- Apply 25% of specified seed to soil surface with 1" compost before installing mat. Disturbed areas shall be reseeded.
- Consult project plans and/or specifications for seed types and application rates.

INSTALLATION IN STORM WATER CHANNELS

- Figure 1 shows general installation layout and details for TRM in storm water swales.
- Excavate an initial trench 24 in wide x 24 in deep (600 x 600 mm) minimum across the channel at downstream end of project (see Figure 2). Deeper initial trench and/or hard armoring may be required in channels that have the potential for scour.
- Excavate a longitudinal edge trench 12 in wide x 12 in deep (300 x 300 mm) minimum along both sides of the installation to bury edges of mat (see Figure 3). The trench shall be located 24 in (600 mm) minimum over crest of slope.
- Beginning at the centerline of the channel, place roll end into the initial trench (with 24 in (600 mm) minimum lap) and secure with pinning devices on 12 in (300 mm) centers (see Figure 2). Position adjacent rolls and secure in trench in same manner. Backfill and compact soil into trench as directed and approved by Engineer.
- Unroll mat in the upstream direction over the compacted trench.
- Secure initial trench lap with pinning devices on 12 in (300 mm) centers (see Figure 2).
- Secure longitudinal edge trench with pinning devices on 12 in (300 mm) centers (see Figure 3).
- Continue installation as described above, overlapping adjacent rolls as follows:
 - A. Roll edge overlap: 6 in (150 mm) minimum overlap with upslope mat on top. Secure with one row of ground pinning devices on 12 in (300 mm) centers (see Figure 4).
 - B. Roll end overlap: 12 in (300 mm) minimum overlap with upstream mat on top. Secure with two rows of ground pinning devices staggered 12 in (300 mm) apart on 12 in (300 mm) centers (see Figure 5).
- Secure mat using suggested ground pinning devices for appropriate frequency and pattern shown on the Pin Pattern Guide (see Figure 6).
- For channel reaches longer than 45 ft (13.7 m), install simulated check slots per Figure 7. This method includes placing two staggered rows of pins on 4 in (100 mm) centers at 30 ft (9.1 m) intervals (see Figure 7) or across the midpoint of the channel for channel lengths less than 60 ft (18.2 m).
- Excavate terminal trench 24 in wide x 24 in deep (600 x 600 mm) minimum across the channel at the upstream end of the project (see Figure 8). Deeper terminal trench and/or hard armoring may be required in channels that have the potential for scour.
- Pin, backfill and compact upstream end of mat in terminal trench (see Figure 8). Terminal trench pinning devices should be spaced on 12 in (300 mm) centers (see Figure 8). Unroll mat in downstream direction over compacted trench with a minimum 24 in (600 mm) lap. Secure lap with pinning devices on 12 in (300 mm) centers.

GROUND PINNING DEVICES

- Metal pins should be at least 0.20 in (5 mm) diameter steel with a 1 1/2 in (38 mm) steel washer at the head of the pin (see Figure 9). Metal pins should be driven flush to the soil surface. Pins should be between 6-24 in (150-600 mm) long and have sufficient ground penetration to resist pullout. Longer pins may be required for looser soils. Heavier metal stakes may be required in rocky soils. Depending on soil pH and design life of the pin, galvanized or stainless steel pins may be required. Consult project plans and/or specifications for tie down device details.

SOIL FILLING & SEEDING - BELOW BOULDER SPILLWAY

- Installed TRM shall be re-seeded with another 25% seed and 1" blown in compost. Remaining 50% seed shall be hydroseeded with stabilizer per seeding specifications.
- If equipment must operate on the mat, make sure it is of the rubber-tired type. No tracked equipment or sharp turns are allowed on the mat.
- Avoid any traffic over the mat if loose or wet soil conditions exist.
- Smooth soil-fill in order to just expose the top of TRM. Do not place excessive soil above the mat.
- Install a category 3 ECB above the soil-filled mat.

SOIL FILLING & SODDING - ABOVE BOULDER SPILLWAY

- Fill installed TRM with blown in compost - approx. 2". Place sod per specifications.
- Irrigate as necessary to establish/maintain vegetation. Do not over irrigate.

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CITY OF ROCHESTER
201 4TH ST. SE
ROCHESTER, MN, 55904-3740

HART FARMS POND IMPROVEMENTS
ROCHESTER, MN

STATE PROJECT NO. --- CITY PROJECT NO. 2010-012 (J6515)

TRM DETAILS

SHEET 08 OF 10 SHEETS

DETAILS - SPILLWAY AND WEIR
SHEET 09 OF 10 SHEETS



2 x ROOT BALL, CONTAINER,
OR DIA. WIDTH



STATE PROJECT NO. ---	CITY PROJECT NO. 2010-012 (J6515)
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